REMARKS

In response to the above-identified Office Action, Claim 1 is amended, no claims are cancelled and no claims are added. Accordingly, Claims 1-3, 5, 7, 9-12, 15, 16, 18-21 and 24-32 are pending and are rejected. Reconsideration and withdrawal of the rejections of record are requested in view of such amendments and the following discussion.

I.   Claims Rejected Under 35 U.S.C. §102

The Patent Office has rejected Claims 1-3, 5, 9-11, 15, 18-21 and 24-26 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,022,077 issued to Bealkowski et al. ("Bealkowski"). Applicant respectfully traverses this rejection.

Applicant respectfully asserts that the Examiner has failed to adequately set forth a *prima facie* rejection under 35 U.S.C. §102(b). "Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, *arranged as in the claim*." *Lindemann Maschinenfabrik v. American Hoist & Derrick* ("Lindemann"), *730 F.2d 452, 1458 (Fed. Cir. 1994)*(emphasis added). Additionally, each and every element of the claim must be exactly disclosed in the anticipatory reference. *Titanium Metals Corp. of American v. Banner* ("Banner Titanium"), *778 F.2d 775, 777 (Fed. Cir. 1985)*.

Regarding Claim 1, Claim 1 includes the following claim feature, which is neither taught nor suggested by either Bealkowski or the references of record:

> a protected storage medium coupled to the host processor, the protected storage medium to enable secure exchange of a protected message between the pre-operating system software program and the operating system present software program via the protected storage medium. (Emphasis added.)

Conversely, Bealkowski is directed to overcoming system capacity restraints, which specify the maximum capacity available for BIOS. (*See* col. 2, lines 46-48.) Specifically, Bealkowski is directed to providing a means for preventing unauthorized modification of BIOS code, which is stored on a mass storage device, such as a fixed disk, due to exceeding the space capacity of system read only memory containing the BIOS. (*See* col. 2, line 56 - col. 3, line 4.)

Accordingly, Bealkowski teaches:

> A direct access storage device controller coupled between the system processor and the direct access storage device [that] includes a means for protecting a region of the storage device. The protected region of the storage

device including a master boot record and a BIOS image. In response to a reset signal, the <u>protected means permits access to the protected region</u> to allow the master boot record to be loaded into random access memory . . . <u>BIOS</u>, now in random access memory is <u>executed</u> and <u>generates</u> a <u>second signal</u> which <u>activates</u> the <u>protection means</u> to <u>prevent access</u> to the <u>region</u> on the <u>disk containing</u> the <u>master boot record</u> and the <u>BIOS image</u>. BIOS then <u>boots</u> up the <u>operating</u> system to begin operation of the system. (Col. 3, lines 21-37.) (Emphasis added.)

Hence, once the BIOS (pre-operating system software) executes, the BIOS generates a second signal, which activates the protection means to prevent access to the region on the disk containing the master boot record and the BIOS image. Hence, the protected storage region is no longer accessible once booting of the operating system is complete. Accordingly, if the pre-operating system software were to store a protected message within the protected region, the message would not be accessible to the operating system present software program since the second signal would have activated the protection means to prevent access to the protected region. (*See Id.*)

Consequently, Applicants respectfully submits that the amendment to Claim 1 prohibits the Examiner from establishing a *prima facie* case of anticipation of Claim 1, as amended.

As further described within <u>Bealkowski</u>:

> In particular, the read only memory includes a <u>first portion of BIOS</u>. The first portion of BIOS Initializes the system processor, the direct access storage device and <u>resets the protection means</u> to read the <u>master boot record</u> from the <u>protected region</u> or partition on the direct access storage device into the random access memory . . . The first BIOS portion confirms the master boot record is compatible with the system hardware . . . [,] vectors the system processor to execute the <u>executable code segment</u> of the master boot record . . . and loads in the <u>remaining BIOS portion</u> from the direct access storage device into random access memory . . . <u>BIOS</u>, executing in random access memory, <u>generates</u> the <u>second signal</u> for <u>protecting</u> the <u>disk partition</u> having the remaining BIOS and <u>then boots</u> the <u>operating system</u> to begin operation of the personal computer system. (Col. 3, lines 38-68.) (Emphasis added.)

Applicants interpret the first BIOS portion and the second BIOS portion as pre-operating system software. Hence, even assuming the passage above provided some teaching or suggestion with reference to secure exchange of a message between the first BIOS portion and the second BIOS portion, the first and second BIOS portions are pre-operating system software. Accordingly, the passage cited above, as well as the entire specification of <u>Bealkowski</u> fails to

provide any teachings or suggestions with reference to secure method exchange between the first and second BIOS portions or between one of the first and second BIOS portions and operating system present software, as required by Claim 1.

Furthermore, as indicated above, access to the protected region is disabled prior to booting of the operating system. (*See* col. 3, lines 65-68.) Hence, Applicants submit that assuming, *arguendo*, that Bealkowski taught secure method exchange between the first and second BIOS portions, secure exchange of a message via the protected region is not taught or suggested by Bealkowski since access to the protected region is disabled prior to loading of the operating system. In other words, operating system present software does not have access to the protected region.

Hence, secure exchange of a message stored within the protected region is not possible between pre-operating system and operating system present software since the operating system present software would not have access to the secure message contained within the protected region. Conversely, Claim 1, as amended, requires secure exchange of a protected message via the protected storage medium. As a result, operating system present software is required to have access to the protected message. However, Bealkowski teaches away from such a claim feature since access to the protected region is revoked prior to booting of the operating system.

Hence, Applicants respectfully submit that Bealkowski fails to teach at least the above-described feature of Claim 1. However, the case law is quite clear in establishing that each and every element of the claim must be exactly disclosed in the anticipatory reference. *Id.* Therefore, Applicants respectfully submit that the Examiner fails to establish a *prima facie* case of anticipation of Claim 1 by Bealkowski. Consequently, Applicants respectfully request that the Examiner reconsider and withdraw the §102(b) rejection of Claim 1.

Regarding Claims 2, 3, 5, 9 and 10, Claims 2, 3, 5, 9 and 10 are dependent from Claim 1 and therefore include the patentable claim features from Claim 1, as described again. Accordingly, Claims 2, 3, 5, 9 and 10, based on their dependency from Claim 1 and for at least the reasons described above, are also patentable over Bealkowski. Consequently, Applicants respectfully request that the Examiner reconsider and withdraw the §102(b) rejection of Claims 2, 3, 5, 9 and 10.

Regarding Claim 11, Claim 11 includes the following claim feature, which is neither taught nor suggested by either Bealkowski or the references of record:

performing, by the pre-operating system software program, a boot-up procedure according to a protected message <u>stored</u> within the <u>protected, storage medium</u> by an <u>operating system present software program</u>.

As indicated above <u>Bealkowski</u> fails to teach any communication between pre-operating system and operating system present software programs due to the fact that the teachings within <u>Bealkowski</u> requires that access to the protected region is rendered unavailable by the pre-operating system prior to loading of the operating system. <u>Bealkowski</u> teaches that the protected storage medium is not accessible by operating system present software.

Accordingly, for at least the reasons described above, Applicants respectfully submit that the Examiner fails to establish a *prima facie* case of anticipation of Claim 11, as anticipated by <u>Bealkowski</u>. Consequently, Applicants respectfully request that the Examiner reconsider and withdraw the §102(b) rejection of Claim 11.

Regarding Claims 15 and 18-20, Claims 15 and 18-20 depend from Claim 11 and therefore include the patentable claim features of Claim 11, as described above. Accordingly, Claims 15 and 18-20, based on their dependency from Claim 11, are also patentable over <u>Bealkowski</u>, as well as the references of record. Consequently, Applicants respectfully request that the Examiner reconsider and withdraw the §102(b) rejection of Claims 15 and 18-20.

Regarding Claims 24-26, Claims 24-26 depend from Claim 21 and therefore include the patentable claim features of Claim 21, as described above. Accordingly, Claims 24-26, based on their dependency from Claim 21, are also patentable over <u>Bealkowski</u>, as well as the references of record. Consequently, Applicants respectfully request that the Examiner reconsider and withdraw the §102(b) rejection of Claims 24-26.

II.   Claims Rejected Under 35 U.S.C. §103

The Patent Office has rejected Claims 1-3, 5, 7, 9-11, 18-21, 25 and 26 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,546,489 B1 issued to Frank, Jr. et al. ("<u>Frank</u>") in view of <u>Bealkowski</u>. Applicant respectfully traverses this rejection.

Claim 1, as amended, includes the following claim feature, which is neither taught nor suggested by either <u>Frank</u>, <u>Bealkowski</u> or the references of record:

a protected storage medium coupled to the host processor to enable <u>secure exchange of a protected message</u> between the <u>pre-operating system software</u>

program and the <u>operating system present software program</u> via the protected storage medium. (Emphasis added.)

By way of contrast, <u>Frank</u> describes a system for fast restoration of a complete operating image in computer system memory, which is secure from attack by a virus or inadvertent corruption during operation of the computer. (*See* col. 1, lines 10–13.) According to <u>Frank</u>:

> The portion of the storage capacity on disks 303 is partitioned to provide a <u>protected area</u> . . . known to the disk control program but are <u>inaccessible to host computer 330</u> . . . is sufficient to store an image source 304 suitable to recreate a fully functional operating image in memory 340. (Col. 5, lines 34-40.) (Emphasis added.)

> A host memory image may be pre-loaded with a host memory image source in a protect area on the disk as illustrated in FIG. 4. (*See* col. 7, lines 8–10). Update of the host memory image may be performed by drive microprocessor 310. (*See* col. 7, lines 23-37.)

Accordingly, as illustrated in FIGS. 3 and 4 of <u>Frank</u>, the memory image is <u>written by a drive micro-processor</u> and <u>not by a host processor executed pre-operating system software program</u>, as required by Claim 1. In other words, the protected area is not accessible to operating system present software.

A method for reading a memory image from within the protected memory area is described with reference to FIG. 7 of <u>Frank</u>. As is further described,

> [F]ollowing a power-up sequence, host interface controller 320 asserts state control signal 337 . . . causing <u>host microprocessor 332</u> to be maintained in an <u>inactive state</u>, such as a reset or hold.
> After state control signal is asserted, drive microprocessor 310, executing code in boot control ROM 322 reads a host memory image source 304 from the . . . protected area of disk 303 . . . <u>for writing into memory array 340</u>. (Col. 5, lines 43-51.) (Emphasis added.)

Accordingly, reading of memory image source 304 by <u>drive micro-processor 310, while the host microprocessor is inactive, does not or suggest secure exchange of a protected message via the protected storage medium, as required by Claim 1</u>. Furthermore, as indicated by <u>Frank</u>:

> there is n<u>o requirement for a BIOS ROM</u> in host computer 330 and overall no opportunity for a virus to contaminate the operating image stored on disk. (Col. 6, lines 4-10.) (Emphasis added.)

Accordingly, by eliminating a BIOS ROM (pre-operating system present software program), <u>Frank</u> fails to teach or suggest the protected storage medium coupled to a host processor to enable secure exchange of a protected message between <u>pre-operating system</u>

software program and the operating system present software program via the protected storage medium, as required by Claim 1, as amended.

Furthermore, the Examiner's citing of Bealkowski fails to rectify the deficiencies attributed to Frank, which teaches that access to the protected area is inaccessible to host computer 330 and therefore inaccessible to operating system present software programs. (*See* col. 5, lines 34-40.) Hence, Applicants respectfully submit that both Frank and Bealkowski teach that access to a protected area or protected region is unavailable to operating system present software programs.

Conversely, Claim 1 requires the secure exchange of a protected message between a pre-operating system software program and an operating system present software program via the protected storage medium. In other words, Claim 1, as amended, requires that operating system present software program have access to the protected storage medium.

Accordingly, Applicants respectfully submit that both Frank and Bealkowski teach away from a protected storage medium, which is accessible by operating system present software programs, as required by Claim 1. In fact, Applicants submit that modification of Frank in view of Bealkowski, as proposed by the Examiner, would run contrary to the explicit teachings of Frank. One of ordinary skill would not be motivated to modify Frank in a manner explicitly contrary to Frank's own teachings. Accordingly, the features of Claim 1, as amended, could only be arrived at through inappropriate hindsight.

However, it is well established that obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent the teaching or suggestion supporting such combination. ACS Hospital Sys., Inc. v. Montefiore Hospital, 732 F.2d. 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984). Also, one cannot find obviousness through hindsight to construct a claimed invention from elements of the prior art. In re Warner, 379 F.2d 1011, 1016, 154 U.S.P.Q. 173, 177 (C.C.P.A. 1967).

Therefore, Applicants respectfully submit that the Examiner fails to establish a *prima facie* case of obviousness of Claim 1 over Frank in view of Bealkowski since the Examiner fails to illustrate a teaching or suggestion to combine the reference teachings. Accordingly, Claim 1, as amended, is patentable over Frank, Bealkowski and the references of record, whether viewed independently or in combination. Consequently, Applicants respectfully request that the Examiner reconsider and withdraw the §103(a) rejection of Claim 1.

Regarding Claims 2, 3, 5, 7, 9 and 10, Claims 2, 3, 5, 7, 9 and 10 depend from Claim 1 and therefore include the patentable claim features of Claim 1, as described above. Accordingly, Claims 2, 3, 5, 7, 9 and 10, based on their dependency from Claim 1, are also patentable over Frank, Bealkowski and the references of record. Consequently, Applicants respectfully request that the Examiner reconsider and withdraw the §103(a) rejection of Claims 2, 3, 5, 7, 9 and 10.

Regarding Claims 11 and 21, Claims 11 and 21 include the following claim feature, which is neither taught nor suggested by either Frank, Bealkowski or the references of record:

> performing, by the pre-operating system software program, a boot-up procedure according to a protected message stored within the protected, storage medium by an operating system present software program.

As indicated above with reference to Claim 1, both Frank and Bealkowski provide a similar teaching requiring that a protected storage medium is inaccessible to operating system present software programs. Accordingly, Applicants respectfully submit that both Frank and Bealkowski teach away from the storage of a protected message within a protected storage medium by an operating system present software program, as required by Claim 11.

Furthermore, as indicated above with reference to Claim 1, the features of Claims 11 and 21 could only be arrived at through inappropriate hindsight since one skilled in art would not modify Frank in a manner explicitly contrary to Frank's own teachings. Consequently, Claims 11 and 21 are patentable over Frank, Bealkowski and the references of record, whether viewed independently or in combination. Consequently, Applicants respectfully request that the Examiner reconsider and withdraw the §103(a) rejection of Claims 11 and 21.

Regarding Claims 15 and 18-20, Claims 15 and 18-20 depend from Claim 11 and therefore include the patentable claim features of Claim 11, as described above. Accordingly, Claims 15 and 18-20 are patentable over Frank, Bealkowski and the references of record, whether viewed independently or in combination. Consequently, Applicants respectfully request that the Examiner reconsider and withdraw the §103(a) rejection of Claims 15 and 18-20.

Regarding Claims 25 and 26, Claims 5 and 26 depend from Claim 21 and therefore include the patentable claim features of Claim 21, as described above. Accordingly, Claims 25 and 26 are patentable over Frank, Bealkowski and the references of record, whether viewed independently or in combination. Consequently, Applicants respectfully request that the Examiner reconsider and withdraw the §103(a) rejection of Claims 25 and 26.

The Patent Office has rejected Claims 7, 12, 15, 24 and 27-31 under 35 U.S.C. §103(a) as being unpatentable over Frank in view of Bealkowski, as applied to Claims 1-3, 5, 7, 9-11, 18-21, 25 and 26 and further in view of Frank. Applicant respectfully traverses this rejection.

Regarding Claim 7, Claim 7 depends from Claim 1 and therefore includes the patentable claim features of Claim 1, as described above. As indicated above with regards to Claim 1, the Examiner fails to establish a case of *prima facie* anticipation of Claim 1, since one of ordinary skill in the art would not modify Frank in view of Bealkowski, as proposed by the Examiner, since the modification proposed by the Examiner is explicitly contrary to Frank's own teachings.

Accordingly, Claim 7, based on its dependency from Claim 1, is also patentable over Frank, Bealkowski and the references of record, whether viewed independently or in combination. Consequently, Applicants respectfully request that the Examiner reconsider and withdraw the §103(a) rejection of Claim 7.

Regarding Claims 12, 15, 27 and 28, Claims 12, 15, 27 and 28. depend from Claim 11 and therefore include the patentable claim features of Claim 11, as described above. As indicated above with reference to Claim 11, the Examiner fails to establish a *prima facie* case of anticipation of Claim 11 since the modification proposed by the Examiner is explicitly contrary to Frank's own teachings of requiring that a protected area is inaccessible by operating system present software programs.

Accordingly, Claims 12, 15, 27 and 28., based on their dependency from Claim 11, are also patentable over Frank, Bealkowski and the references of record, whether viewed independently or in combination. Consequently, Applicants respectfully request that the Examiner reconsider and withdraw the §103(a) rejection of Claims 12, 15, 27 and 28.

Regarding Claims 24 and 29-31, Claims 24 and 29-31 depend from Claim 21 and therefore include the patentable claim features of Claim 11, as described above. As indicated above with reference to Claim 21, the Examiner fails to establish a *prima facie* case of obviousness of Claim 21 since the modification of Frank proposed by the Examiner is explicitly contrary to Frank's own teachings.

Accordingly, Claims 24 and 29-31, based on their dependency from Claim 21, are also patentable over Frank, Bealkowski and the references of record, whether viewed independently or in combination. Consequently, Applicants respectfully request that the Examiner reconsider and withdraw the §103(a) rejection of Claims 24 and 29-31.

The Patent Office has rejected Claims 16 and 32 under 35 U.S.C. §103(a) as being unpatentable over Frank in view of Bealkowski, as applied to Claims 1-3, 5, 7, 9-11, 18-21, 25 and 26 and further in view of U.S. Patent No. 5,835,594 issued to Albrecht et al. ("Albrecht"). Applicant respectfully traverses this rejection.

Regarding Claim 16, Claim 16 depends from Claim 11 and therefore includes the patentable claim features of Claim 11, as described above. As indicated above with reference to Claim 11, the Examiner fails to establish a *prima facie* case of anticipation of Claim 11 since the modification of Frank proposed by the Examiner is explicitly contrary to Frank's own teachings. Accordingly, Applicants respectfully submit that the Examiner's citing of Albrecht fails to rectify the above-described deficiencies attributed to the proposed modification of Frank in view of Bealkowski. Accordingly, Claim 11 is patentable over Frank, Bealkowski, Albrecht and the references of record, whether viewed independently or in combination. Consequently, Claim 16, based on its dependency from Claim 11 is also patentable over Frank, Bealkowski, Albrecht and the references of record. Consequently, Applicants respectfully request that the Examiner reconsider and withdraw the §103(a) rejection of Claim 16.

Regarding Claim 32, Claim 32 depends from Claim 21 and therefore includes the patentable claim features of Claim 21, as described above. Claim 21 includes the analogous claim feature of Claim 11 requiring storage of a protected message within a protected storage medium by an operating system present software program. As indicated above, both Frank and Bealkowski explicitly teach away from providing access to protected storage by operating system present software programs.

Hence, the Examiner's citing of Albrecht would require modification of Frank in view of Bealkowski in a manner contrary to the explicit teachings of both Frank and Bealkowski. Accordingly, Claim 21 is patentable over Frank, Bealkowski and Albrecht, whether viewed independently or in combination. Therefore, Claim 32, based on its dependency from Claim 21, is also patentable over Frank, Bealkowski, Albrecht and the references of record. Consequently, Applicants respectfully request that the Examiner reconsider and withdraw the §103(a) rejection of Claim 32.

CONCLUSION

Applicants have amended the claims to recite features that are not taught or suggested by the references. No new matter is introduced by the Applicants' claim amendments, which are supported in Applicants' specification and are necessary for placing the present application in condition for allowance.
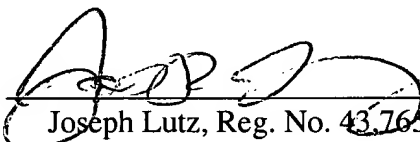
In view of the foregoing, it is believed that all claims now pending, namely Claims 1-3, 5, 7, 9-12, 15, 16, 18-21 and 24-32, patentably define the present application over the prior art of record, and are therefore in condition for allowance; and such action is earnestly solicited at the earliest possible date. If the Examiner believes that a telephone conference would be useful in moving the application forward to allowance, the Examiner is encouraged to contact the undersigned at (310) 207-3800, ext. 738.

If necessary, the Commissioner is hereby authorized in this, concurrent and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2666 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17, particularly, extension of time fees.

Respectfully submitted,

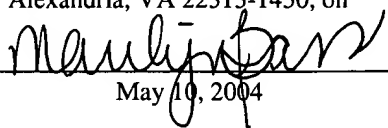BLAKELY, SOKOLOFF, TAYLOR, & ZAFMAN LLP

Dated: May 10, 2004   By: _____
                                  Joseph Lutz, Reg. No. 43,765

12400 Wilshire Boulevard
Seventh Floor
Los Angeles, California 90025
(310) 207-3800

CERTIFICATE OF MAILING:
I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail, with sufficient postage, in an envelope addressed to: Mail Stop Non-Fee Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on May 10, 2004

_____
Marilyn Bass   May 10, 2004